COMBUSTION CHARACTERISTICS OF SELECTED LIQUID PROPELLANTS

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ABSTRACT

The propellant development and combustion research reported herein have as their ultimate objective the development of liquid bipropellant systems which have a theoretical specific impulse greater than 315 sec (mobile equilibrium, P_c/P_e = 1000/14.7 psia).

The ignition characteristics of four bipropellant systems were determined with the Aerojet Ignition Delay Device.

The combustion characteristics of one NF-system were determined with the Aerojet Liquid-Liquid Combustor. The performance characteristics of this system was determined at the nominal 400-lb thrust level (P_c/P_e = 500/14.7 psia), and at the nominal 5000-lb thrust level (P_c/P_e = 400/14.7 psia).